

MODIS IOT Weekly Report

Mission Operations Days: 2000/002 to 2000/008

January 8, 2000 15:00:00 EST to January 15, 2000 14:59:59 EST

Terra Spacecraft and MODIS Instrument Status:

Terra (AM-1) is in Normal Mode

Terra (AM-1) has an anomaly with the propulsion thrusters

MODIS is in Standby Mode

MODIS has no known Anomalies

| | | |
|-------------------------|----------------------|---------|
| Blackbody | Off | Nominal |
| Calibration Electronics | A On; B off | Nominal |
| Control Processor | B On; A off | Nominal |
| Door: Nadir | Unlatched, closed | Nominal |
| Space View | Unlatched, at Outgas | Nominal |
| Solar Diffuser | Unlatched, closed | Nominal |
| FDDI Formatter | Off | Nominal |
| FIFO Memory | Off | Nominal |
| Format Processor | Off | Nominal |
| PC FPA | Off | Nominal |
| Power Supply: 1 | Off | Nominal |
| 2 | On | Nominal |
| PV FPAs: VIS | Off | Nominal |
| NIR | Off | Nominal |
| SMIR | Off | Nominal |
| LWIR | Off | Nominal |
| Radiative Cooler: | | |
| Outgas Heaters | On | Nominal |
| LWIR FPA Heater | Off | Nominal |
| SMIR FPA Heater | Off | Nominal |
| Scan Assembly | Off | Nominal |
| SDSM | Off | Nominal |
| SRCA | Off | Nominal |
| Survival Heaters: PS1 | Enabled | Nominal |
| PS2 | Enabled | Nominal |
| Flight Software | Rev BD | Nominal |
| Inhibit Ids Set | None | Nominal |
| TMONs enabled | None | Nominal |

This Week's Completed MODIS Activities:

2000/011 18:20 EST Autonomously sent to Safe Mode by S/C

2000/012 16:14 Transitioned to Standby Mode

2000/012 16:17 Turned on the cold and intermediate stage outgas heater

2000/012 16:24 Turned on the outer stage outgas heater

This Week's Scheduled MODIS Activities Not Completed:

None

Upcoming MODIS Events:

2000/17 12:30 EST Turn off outgas heaters

Wednesday, January 19, the results of the SBRs thermal model will be reviewed. Based on this discussion a decision will be made when to transition to Science Mode.

MODIS Anomalies:

MODIS had a yellow limit, MOD_VR_PS2_P15V_A2AF, at 2000:015:04:57:02 for one cycle. The value was 17.1959V and the yellow upper limit violated is 17.15V. The upper red limit for this point is 18.75V. Plots were made and faxed to JAM who agreed this was worth watching but no action should be taken.

The formatter engine temperatures (A and B) continues to cyclicly drop below their yellow limits. There are no health and safety risks. These temperatures are varying cyclicly with the MEM survival heater duty cycle.

General Instrument Comments:

MODIS is currently in Standby Mode. All three MODIS doors have successfully been. The MEM survival heater cycle is steadily on approximately 40% of the time. MODIS began outgassing on January 3rd, 2000, stopped on January 11, and resumed approximately 22 hours later on January 12.

MODIS Telemetry Trends:

The outgas heater stage temperatures are oscillating as expected under thermostatic control. The 88V power supply feed is fluctuating, generally between 82 and 90 Volts, as each of the three outgas heaters power on and turn off. Similar fluctuations are seen for the S/C power system current feed to MODIS as the outgas heaters toggle. The A and B side formatter engine temperatures are oscillating in conjunction with the MEM survival heater duty cycle and have been exceeding their yellow low limits on a predictable basis.

Non-MODIS Significant Events:

2000/009: ASTER successfully activated their Thermal Infrared Radiometer (TIR)

today (one of three separate instruments comprising the ASTER package).

- 2000/010: Today was the first Staging Burn (also referred to as a Calibration Burn) for the Space Craft. The burn took place at 17:55:42 GMT and lasted 11 seconds.
- 2000/011: The CPHTS (cooling system) for TIR had a problem and TIR had to be shutdown. The problem is referred to as depriming.
- 2000/011: S/C autonomously sent to Safe Mode during orbit attainment thruster burn at 18:20EST. Anomaly team continues to work on a recovery plan.
- 2000/013: Communication with the S/C via the HGA resumed.
- 2000/013: The TIR CPHTS was restarted on the redundant side. The ASTER team will wait until they are comfortable that the CPHTS is working before turning on TIR again. (CPHTS = Capillary Pump Heat Transfer System)
- 2000/015: The TIR CPHTS deprimed again.

Limited Life Item Status:

No limited life items were exercised this week. All limited life items are well within lifetime ranges, although precise statistics for each item are still pending.